Arch Chemicals, Inc.

MATERIAL SAFETY DATA

FOR ANY EMERGENCY, CALL 24 HOURS/7 DAYS:	**1-800-654-6911**
FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC®:	1-800-424-9300
FOR ALL MSDS QUESTIONS & REQUESTS, CALL MSDS CONTROL:	1-800-511-MSDS

PRODUCT NAME: HTH® PH PLUS

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

REVISION DATE: 01-15-2004 SUPERCEDES: 09-17-2003
MSDS NO: 00008-0025 - 61301

MANUFACTURER: **Arch Chemicals, Inc. 501 Merritt 7 PO Box 5204 Norwalk, CT 06856-5204**

SYNONYMS: Soda Ash, pH Plus Adjuster
CHEMICAL FAMILY: Carbonate
FORMULA: Na_2CO_3
DESCRIPTION: pH adjuster for pool and spa water.
OSHA HAZARD CLASSIFICATION: Skin, eye and respiratory irritant; skin and eye hazard; toxic by inhalation

SECTION 2 COMPONENT DATA

PRODUCT COMPOSITION
CAS or CHEMICAL NAME: Sodium carbonate
CAS NUMBER: 497-19-8
PERCENTAGE RANGE: 99.8-100%
HAZARDOUS PER 29 CFR 1910.1200: Yes
EXPOSURE STANDARDS: None Established

SECTION 3 PRECAUTIONS FOR SAFE HANDLING AND STORAGE

DO NOT TAKE INTERNALLY. AVOID CONTACT WITH SKIN, EYES, AND CLOTHING. UPON CONTACT WITH SKIN OR EYES, WASH OFF WITH WATER. AVOID BREATHING DUST.
STORAGE CONDITIONS: Store in a cool, dry area.
DO NOT STORE AT TEMPERATURES ABOVE: Stable at normal storage temperatures
OTHER: Do not store near acids.
PRODUCT STABILITY AND COMPATIBILITY
SHELF LIFE LIMITATIONS: Unlimited
INCOMPATIBLE MATERIALS FOR PACKAGING: None known
INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT: Acids

SECTION 4 PHYSICAL DATA

APPEARANCE: White granular solid
FREEZING POINT: Not Applicable
BOILING POINT: Decomposes
DECOMPOSITION TEMPERATURE: 851 Deg.C (1564 Deg.F)
SPECIFIC GRAVITY: 2.5
BULK DENSITY: 1.04

pH: 11.4 (1% soln.)
VAPOR PRESSURE @ 25 DEG. C: Nil
SOLUBILITY IN WATER: 33.2%
VOLATILES, PERCENT BY VOLUME: Not Applicable
EVAPORATION RATE: Not Applicable
VAPOR DENSITY: Not Applicable
MOLECULAR WEIGHT: 105.99
ODOR: None
COEFFICIENT OF OIL/WATER DISTRIBUTION: No Data

SECTION 5 PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

PERSONAL PROTECTION FOR ROUTINE USE OF PRODUCT:
RESPIRATORY PROTECTION: Respiratory protection not normally needed. If dusting occurs, wear a NIOSH approved dust respirator.
VENTILATION: Local exhaust ventilation is recommended if dusting or industrial use occur. Otherwise, ensure good general ventilation.
SKIN AND EYE PROTECTIVE EQUIPMENT: Wear chemical safety goggles, and impermeable gloves to avoid skin and eye contact.
EQUIPMENT SPECIFICATIONS:
RESPIRATOR TYPE: NIOSH approved dust respirator.
PROTECTIVE CLOTHING TYPE: (this includes gloves, boots, apron, protective suit): Neoprene

SECTION 6 FIRE AND EXPLOSION HAZARD INFORMATION

FLAMMABILITY DATA:
FLAMMABLE: No
COMBUSTIBLE: No
PYROPHORIC: No
FLASH POINT: Not Applicable
AUTOIGNITION TEMPERATURE: Not Applicable
FLAMMABLE LIMITS AT NORMAL ATMOSPHERIC TEMPERATURE AND PRESSURE (PERCENT VOLUME IN AIR): Not Applicable

NFPA RATINGS: Not Established

HMIS RATINGS:
Health: 2
Flammability: 0
Reactivity: 0

EXTINGUISHING MEDIA: Not Applicable

FIRE FIGHTING TECHNIQUES AND COMMENTS: Use water to cool containers exposed to fire.

SECTION 7 REACTIVITY INFORMATION

CONDITIONS UNDER WHICH THIS PRODUCT MAY BE UNSTABLE:
TEMPERATURES ABOVE: 851 Deg.C (1564 Deg.F)
MECHANICAL SHOCK OR IMPACT: No
ELECTRICAL (STATIC) DISCHARGE: No
HAZARDOUS POLYMERIZATION: Will Not Occur
INCOMPATIBLE MATERIALS: Acids
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide, carbon monoxide, sodium oxide

SUMMARY OF REACTIVITY:

OXIDIZER: No
PYROPHORIC: No
ORGANIC PEROXIDE: No
WATER REACTIVE: No

SECTION 8 FIRST AID

EYES: Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Call a physician at once.

SKIN: Immediately flush with water for 15 minutes. Wash the contaminated skin with soap and water. If irritation develops, call a physician. If clothing comes in contact with the product, the clothing should be removed immediately and it should be laundered before re-use.

INGESTION: Immediately drink water to dilute. Call a physician at once. DO NOT give anything by mouth if the person is unconscious or if having convulsions.

INHALATION: If person experiences nausea, headache or dizziness, person should stop work immediately and move to fresh air until these symptoms disappear. If breathing is difficult, administer oxygen, keep the person warm and at rest. Call a physician. In the event that an individual inhales enough vapor to lose consciousness, person should be moved to fresh air at once and a physician should be called immediately. If breathing has stopped, artificial respiration should be given immediately. In all cases, ensure adequate ventilation and provide respiratory protection before the person returns to work.

SECTION 9 TOXICOLOGY AND HEALTH INFORMATION

ROUTES OF ABSORPTION
Skin and eye contact, inhalation, ingestion

WARNING STATEMENTS AND WARNING PROPERTIES
DO NOT TAKE INTERNALLY. MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. HARMFUL IF INHALED.

HUMAN THRESHOLD RESPONSE DATA
ODOR THRESHOLD: No Data
IRRITATION THRESHOLD: No Data
IMMEDIATELY DANGEROUS TO LIFE OR HEALTH: The IDLH concentration has not been established for this product.

SIGNS, SYMPTOMS, AND EFFECTS OF EXPOSURE:

INHALATION
ACUTE:
If inhaled, mild irritation may result to the throat, mucous membranes and upper respiratory tract. Any irritation would be transient with no permanent damage expected. Subsequent coughing and shortness of breath may also occur from inhalation of this product.
CHRONIC:
Damage to lungs has been observed from repeated inhalation of high concentrations (70 mg/m3). This damage is characterized by thickening of the walls of the air sacs and a low grade of pulmonary inflammation. The risk to human health is low due to the high concentration required to produce the effect.

SKIN:

ACUTE:

Contact with intact skin may cause slight to mild irritation consisting of reversible redness. Contact with abraded skin may cause moderate irritation consisting of transient redness and swelling. This irritant effect would not result in permanent damage.

CHRONIC:

Repeated or prolonged skin exposure may cause dermatitis and possible "soda ulcers" (blistering) of the hands and wrists. This can result in secondary infections.

EYE:

Contact with the eyes would be expected to cause irritation consisting of reversible redness, swelling and mucous discharge to the conjunctiva.

Minor corneal involvement may occur with possible impairment of vision if product is not rinsed immediately from the eyes.

INGESTION

ACUTE:

If ingested, may cause irritation and gastrointestinal discomfort with any or all of the following symptoms: nausea, vomiting, lethargy, abdominal pain and diarrhea. Ingestion of large amounts may produce ulceration to the GI tract.

CHRONIC:

There are no known or reported effects from chronic exposure except for effects similar to those experienced from single exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

There are no medical conditions known to be aggravated by exposure.

INTERACTIONS WITH OTHER CHEMICALS WHICH ENHANCE TOXICITY:

There are no chemicals known to enhance the toxicity of the product.

ANIMAL TOXICOLOGY

ACUTE TOXICITY:

Inhalation LC 50: 2300 mg/cubic meter (2 hr., rat)
Dermal LD 50: Believed to be > 2 g/kg (rabbit)
Oral LD 50: 4.1 g/kg (rat)
Irritation: Skin, eye and respiratory irritant

ACUTE TARGET ORGAN TOXICITY:

Contact with the eyes and mucous membranes causes transient irritation. Minor corneal involvement may occur if product is not rinsed immediately from the eyes. Inhalation may cause irritation. Contact with skin causes irritation.

CHRONIC TARGET ORGAN TOXICITY:

Male rats were exposed to an aerosol of 2% aqueous solution of sodium carbonate, 4 hr.day, 5 days/week for 3-1/2 months. No effect was observed at a concentration of 10 or 20 mg/cubic meter. At 70 mg/cubic meter weight gain was decreased and the lungs showed thickening of the intra-alveolar walls, hyperemia, and lymphoid infiltration.

Repeated or prolonged skin contact with this product may cause dermatitis and blistering.

REPRODUCTIVE AND DEVELOPMENTAL TOXICITY:

Sodium carbonate has been tested in mice, rats, and rabbits and was found not to be teratogenic in all 3 species of laboratory animals.

CARCINOGENICITY:

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP or EPA.

MUTAGENICITY:
Sodium carbonate has been shown to be non-mutagenic in the Salmonella/microsome (Ames assay) and chromosomal aberration tests.

AQUATIC TOXICITY:
Bluegill, 96 hr. LC50: 320 mg/l (nominal, static)
Gambusia affinis (mosquito fish), 96 hr. LC 50: 740 mg/l (nominal, static)
Daphnia magna, 48 hr. LC50 (mortality): 265 mg/l (nominal, static)

SECTION 10 TRANSPORTATION INFORMATION

THIS MATERIAL IS NOT REGULATED AS A DOT HAZARDOUS MATERIAL.

SPECIAL COMMENTS: INHALATION TOXICITY NOT RELEVANT TO TRANSPORTATION DUE TO PARTICLE SIZE OF MATERIAL

SECTION 11 SPILL AND LEAKAGE PROCEDURES

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC AT 800-424-9300.

REPORTABLE QUANTITY: Not Applicable (Per 40 CFR 302.4)

SPILL MITIGATION PROCEDURES: Hazardous concentrations in air may be found in local spill area.

Air Release - vapors may be suppressed by the use of a water fog.

Water Release - this material is heavier than water. This material is soluble in water. Dike spill area and stop water discharge.

Land Spill - Dike area and liquify material. Neutralize to a pH of 7 with the use of a weak acid solution. Check pH of the material often.

SPILL RESIDUES: Dispose of per guidelines under Section XII, WASTE DISPOSAL. This material may be neutralized for disposal; you are requested to contact at 800-6546-911 before beginning any such operation.

PERSONAL PROTECTION FOR EMERGENCY SPILL AND FIRE-FIGHTING SITUATIONS: No extra protection required beyond that listed in Section V. In case of fire, use normal fire fighting equipment, including a NIOSH approved self-contained breathing apparatus (SCBA).

SECTION 12 WASTE DISPOSAL

If this product becomes a waste, it DOES NOT meet the criteria of a hazardous waste as defined under 40 CFR 261, in that it does not exhibit the characteristics of hazardous waste of Subpart C, nor is it listed as a hazardous waste under Subpart D.

As a nonhazardous solid waste it should be disposed of in accordance with local, state, and federal regulations by treatment in a wastewater treatment system.

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL. THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS REGARDING TREATMENT, STORAGE AND DISPOSAL FOR HAZARDOUS AND NONHAZARDOUS WASTES.

SECTION 13 ADDITIONAL REGULATORY STATUS INFORMATION

TOXIC SUBSTANCES CONTROL ACT: This substance is listed on the Toxic Substances Control Act inventory.

SUPERFUND AMENDMENT AND REAUTHORIZATION ACT TITLE 3:

HAZARD CATEGORIES, PER 40 CFR 370.2:
HEALTH: Immediate (Acute)
Delayed (Chronic)
PHYSICAL: None

EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW, PER 40 CFR 355, APP. A:
EXTREME HAZARDOUS SUBSTANCES - THRESHOLD PLANNING QUANTITY:
None Established

SUPPLIER NOTIFICATION REQUIREMENTS, PER 40 CFR 372.45:
None Established

SECTION 14 ADDITIONAL INFORMATION

MSDS REVISION STATUS: Section 8 revised

SECTION 15 MAJOR REFERENCES

1. Ishidate, M., Jr., et al, Primary Mutagenicity Screening of Food Additives Currently Used in Japan, 1984, Food Chem. Toxic, 623-636.
2. Teratologic Evaluation of FDA 71-84 (Sodium Carbonate) in Mice, Rats, and Rabbits. NTIS PB Report (PB-234-868), Springfield, VA: National Technical Information Service, March 1974.
3. Schardein, James, L., Chemically Induced Birth Defects, 2nd Ed., Marcel Dekker, Inc., NY., 1993.
4. AQUIRE Database (aquatic toxicity), Chemical Information System, Oxford Molecular Group, Hunt Valley, MD .
5. Murphy, J.C., et al. Occular Irritancy Responses to Various pHs of Acids and Bases With and Without Irrigation. Toxicology, Vol. 23, pp. 281-291, 1982.

Additional references are available upon request

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